



**Billing Code: 4910-60-P**

**DEPARTMENT OF TRANSPORTATION**

**Pipeline and Hazardous Materials Safety Administration**

**49 CFR Parts 107, 171, 173, 178, 179 and 180**

**[Docket No. PHMSA-2010-0019 (HM-241)]**

**RIN 2137-AE58**

**Hazardous Materials: Incorporation of ASME Code Section XII and the National Board**

**Inspection Code**

**AGENCY:** Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

**ACTION:** Supplemental Notice of Proposed Rulemaking (SNPRM).

**SUMMARY:** This SNPRM proposes to incorporate and allow the use of the 2015 edition of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code, Section XII - Rules for Construction and Continued Service of Transport Tanks* for the construction and continued service of cargo tank motor vehicles (CTMVs), cryogenic portable tanks, and multi-unit tank car tanks (“ton tanks”). The PHMSA also proposes to incorporate and authorize the use of the 2015 edition of the National Board of Boiler and Pressure Vessel Inspectors *National Board Inspection Code, in our regulations* as it applies to the continued service of CTMVs, cryogenic portable tanks, and ton tanks constructed to ASME *Section XII* standards, as well as for existing CTMVs constructed in accordance with the current hazardous materials regulations. If adopted, these amendments will allow for flexibility regarding selection of authorized packaging, in addition to qualification and maintenance for continued service of the packaging, without compromising safety.

**DATES:** Submit comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION]

IN FEDERAL REGISTER]. To the extent possible, PHMSA will consider late-filed comments as we determine whether additional rulemaking is necessary.

**ADDRESSES:** You may submit comments identified by the docket number [PHMSA-2010-0019 (HM-241)] by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- Fax: 1-202-493-2251.
- Mail: Docket Operations, U.S. Department of Transportation, West Building, Ground Floor, Room W12-140, Routing Symbol M-30, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- Hand Delivery: To Docket Operations, Room W12-140 on the ground floor of the West Building, 1200 New Jersey Avenue, SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal Holidays.

Instructions: All submissions must include the agency name and docket number for this notice at the beginning of the comment. Note that all comments received will be posted without change to the docket management system, including any personal information provided.

Docket: For access to the dockets to read background documents or comments received, go to <http://www.regulations.gov> or DOT's Docket Operations Office (see ADDRESSES). To access and review ASME's *Section XII - Rules for Construction and Continued Service of Transport Tanks*; and the National Board's *NBIC Parts 1, 2, and 3, and Part 2, Section 6, Supplement 6 - Continued Service and Inspection of DOT Transport Tanks*, and *Part 3, Section 6, Supplement 6 - Repair, Alteration, and Modification of DOT Transport Tanks*, go to: <http://go.asme.org/PHMSA-ASME-CFR>.

**PRIVACY ACT:** Anyone is able to search the electronic form of any written communications and comments received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000 [65 FR 19477] or you may visit <http://www.dot.gov/privacy>.

**FOR FURTHER INFORMATION CONTACT:** Dirk Der Kinderen, Hazardous Materials Standards and Rulemaking Division, (202) 366-8553, or Stanley Staniszewski, Engineering and Research Division, (202) 366-4492, Office of Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, 1200 New Jersey Avenue, SE, Washington, DC 20590.

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## **I. Executive Summary**

The PHMSA (also “we” or “us”) proposes to amend the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) to incorporate by reference and authorize the use of the following:

- The 2015 edition of American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code (BPVC), Section XII - Rules for Construction and Continued Service of Transport Tanks* (hereinafter referred to as “*Section XII*”); and
- The 2015 edition of the National Board of Boiler and Pressure Vessel Inspectors *National Board Inspection Code (NBIC), Parts 1, 2, and 3, and Supplement 6* (hereinafter referred to as “*NBIC*” and “*Supplement 6*,” respectively);

The proposal is structured to provide an alternative to the 1998 editions of ASME *Section VIII, Division 1* (currently incorporated by reference (IBR) and hereinafter referred to as “*Section VIII, Division 1*”) and the HMR requirements in Part 178 for the construction of cargo tank motor vehicles (CTMVs) and cryogenic portable tanks, Part 179 for the construction of multi-unit tank car tanks (hereinafter referred to as “ton tanks”), and Part 180 for the continuing qualification and maintenance of CTMVs, cryogenic portable tanks, and ton tanks. We previously responded to petitions submitted by industry representatives by publishing a notice of

proposed rulemaking (NPRM)<sup>1</sup> to incorporate the 2013 editions of *Section XII* and the *NBIC* (including *Supplement 6*). *Section XII* sets forth standards for construction<sup>2</sup> and continued service<sup>3</sup> of pressure vessels used for transporting hazardous materials by various modes of transportation. The *NBIC* and *Supplement 6* provide rules and guidelines for inspecting, repairing, and altering transport tanks. Table 1 lists the packagings for which *Section XII* may be used for construction.

| <b>Table 1: Authorized Transport Tanks under <i>Section XII</i></b> |  |
|---|--|
| <b>Tank Type</b>  | <b>Specification</b>                   |
| Cargo Tank Motor Vehicles (CTMVs)                                   | MC 331, 338, and DOT 406, 407, and 412 |
| Cryogenic Portable Tanks  | UN T75                                 |
| Ton Tanks   | DOT-106A and 110AW                     |

If the proposed amendments are adopted, manufacturers will have the option to either build tanks to *Section XII* or continue using *Section VIII, Division 1*. While *Section VIII, Division 1* applies to construction only and must be used in conjunction with HMR Parts 178-180 for construction and continued service, *Section XII* covers construction of new tanks and continued service of existing tanks. Further, as proposed, CTMVs and portable tanks built to *Section VIII, Division 1* would be authorized for qualification and continued service using the more current edition of the *NBIC* in addition to Part 180; whereas CTMVs and portable tanks built to *Section XII* would be required to use *NBIC* (and *Supplement 6*) for qualification and continued service. Table 2 describes the framework available to manufacturers and owners of transport tanks with regard to IBR of *Section XII* and *NBIC*.

| <b>Table 2: Framework for Continued Service</b> |                        |              |
|---|------------------------|--------------|
| <b>If a Table 1....</b>                         | <b>Is built to....</b> | <b>Then,</b> |

<sup>1</sup> December 30, 2013 [78 FR 79363].

<sup>2</sup> “Construction” is an all-inclusive term comprising materials, design, fabrication, examination, inspection, testing, certification, and over-pressure protection.

<sup>3</sup> “Continued service” is an all-inclusive term referring to inspection, testing, repair, alteration, and recertification of a transport tank that has been in service.

|                         |                                 |  |
|-------------------------|---------------------------------|--|
| CTMV                    | <i>Section XII</i>              | The 2015 <i>NBIC</i> and <i>Supplement 6</i> must be used.   |
| CTMV                    | <i>Section VIII, Division 1</i> | Part 180 of the HMR must be used along with the 2015 <i>NBIC</i> or the 1992 <i>NBIC</i> already in the HMR. |
| Cryogenic Portable Tank | <i>Section XII</i>              | The 2015 <i>NBIC</i> and <i>Supplement 6</i> must be used.   |
| Cryogenic Portable Tank | <i>Section VIII, Division 1</i> | Part 180 of the HMR must be used along with the 2015 <i>NBIC</i> or the 1992 <i>NBIC</i> already in the HMR. |
| Ton Tank                | <i>Section XII</i>              | The 2015 <i>NBIC</i> and <i>Supplement 6</i> must be used.   |
| Ton Tank                | Part 179 and FRA approval       | Part 180 and FRA approval must be used.  |

The 2015 editions of the respective codes include advancements in design, material, fabrication, repair, and inspection of transport tanks. Incorporation by reference would provide manufacturers and owners with flexibility, while providing an equivalent level of safety to the current use of *Section VIII, Division 1* and the HMR.

The *NBIC* (including *Supplement 6*) was updated in conjunction with *Section XII* to provide up-to-date standards for the qualification and continued service of pressure vessels, including transport tanks. Both *Section XII* and the *NBIC* were developed as global standards and were written to be compatible with the *United Nations Recommendations on the Transport of Dangerous Goods*. Moreover, these standards were developed by voluntary consensus standards-development organizations<sup>4</sup> comprised of stakeholders involved in the design, certification, continued qualification, and maintenance of transport tanks, including manufacturers of tanks and PHMSA engineers. These individuals have expert knowledge of how to design, construct, and maintain tanks to withstand the unique dynamic conditions and stresses of a transportation environment.

Manufacturers, tank owners, users, maintenance and repair entities, and third-party inspectors (including potentially public sector inspectors) could incur costs under the scope of our proposed amendments. Manufacturers who opt for *Section XII* tanks would have to purchase the updated standards and most likely attend additional training. Entities that repair tanks and

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<sup>4</sup> i.e., The American Society of Mechanical Engineers and the National Board of Boiler and Pressure Vessel Inspectors.

third-party inspectors opting to provide *Section XII* repairs or inspections may have to acquire new certificates of authorization and purchase and be trained in both updated codes, although it is likely that many already have the most current codes in order to maintain their “U” or “R” stamp in accordance with obligations under the ASME.

Benefits associated with the use of *Section XII* and the *NBIC* include greater efficiencies in the manufacture of tanks, as well as the mitigation of the fluctuating cost of materials. Because *Section XII* allows for the use of a broader range of materials of construction, manufacturers now have more ways to lower the cost of tank construction, while still maintaining safety. Also, CTMVs built to *Section XII* could achieve lower transport costs due to reduced fuel costs from weight savings and/or fewer miles traveled from increased capacity.

The costs and benefits of this rulemaking would predominantly impact only those entities opting to use the 2015 codes. Therefore, PHMSA does not believe the authorization to use and IBR *Section XII* and the *NBIC* (including *Supplement 6*) would impose substantial costs on affected entities. That is, we do not believe a manufacturer would opt to use *Section XII* to build a tank unless it believes an economic advantage will be gained.

## **II. ASME and NBIC Background**

### **A. What is ASME?**

The American Society of Mechanical Engineers (ASME) is an international developer of codes and standards associated with the art, science, and practice of mechanical engineering. The organization develops and revises codes and standards that cover topics including pressure technology, construction, engineering design, standardization, and performance testing. Engineers, scientists, government officials, and others contribute their technical expertise to this enterprise.

Codes and standards such as *Section XII* of the *Boiler and Pressure Vessel Code* are developed based on market needs through a consensus (committee) process that is open to all members of the public. The ASME consensus committees are made up of volunteer subject matter experts, ranging from manufacturers to users to government officials. Standards and subsequent revisions are based on review of technical data by the consensus committee and its subcommittees. The development and revision process includes a public review for all actions. Any interested member of the general public may review and comment on proposed ASME standards or revisions. Refer to the following ASME website for the *Section XII* committee and associated publication information:

<https://cstools.asme.org/csconnect/CommitteePages.cfm?Committee=N20150000>. We note that a PHMSA official participated on the committee that developed the *Section XII* standards.

**B. What is *Section XII* of the *Boiler and Pressure Vessel Code*?**

*Section XII* provides standard requirements for construction and continued service of pressure vessels for the transportation of hazardous material by highway, rail, air, or water at pressures from full vacuum to 3,000 psig (207 bar) and volumes greater than 120 gallons (450 liters). “Construction” is an all-inclusive term comprising materials, design, fabrication, examination, inspection, testing, certification, and over-pressure protection. “Continued service” refers to inspection, testing, repair, alteration, and recertification of a transport tank that has been in service. *Section XII* also contains modal appendices containing requirements for packagings used in specific transport modes and service applications. Finally, rules pertaining to the use of the ASME “T” product certification marks are also included.

**C. What is the National Board of Boiler and Pressure Vessel Inspectors?**

The National Board of Boiler and Pressure Vessel Inspectors (hereinafter called the



National Board) is a member organization that promotes uniformity in the construction, installation, repair, maintenance, and inspection of pressure equipment. The National Board, which is comprised of the chief boiler inspectors representing much of North America, oversees adherence to laws, rules, and regulations relating to boilers and pressure vessels. Functions of the National Board include the following: commissioning inspectors through a comprehensive examination process; accrediting qualified repair and alteration companies; and developing installation, inspection, repair, and alteration standards (i.e., the *NBIC*). Furthermore, as it is an American National Standards Institute (ANSI) accredited standards development organization, the National Board follows an approved set of standards development procedures and is subject to regular audits by ANSI.

D. What is the *National Board Inspection Code* and *Supplement 6*?

The *National Board Inspection Code (NBIC)* provides rules and guidelines for the repair, alteration, inspection, installation, maintenance, and testing of boilers, pressure vessels, and other pressure-retaining items. *Supplement 6* provides rules for continued service inspections of transport tanks (i.e., CTMVs, portable tanks, and ton tanks) that transport hazardous material subject to the HMR and the *United Nations Recommendations on the Transport of Dangerous Goods*—Model Regulations. *Supplement 6* is intended to be used in conjunction with other applicable parts of the *NBIC* and *Section XII* of the *ASME Boiler and Pressure Vessel Code*.

### **III. Regulatory History and Response to Comments**

All associated rulemaking actions, supporting documentation, and comments on the rulemaking are available for review at the docket to this rulemaking [PHMSA-2010-0019].

A. ANPRM

The PHMSA published an Advanced Notice of Proposed Rulemaking (ANPRM) on

December 23, 2010 [75 FR 80765], in which we asked a number of questions pertaining to the potential costs, burdens, or safety concerns associated with incorporating *Section XII* and the 2011 edition of the *NBIC* for the construction and continued service of CTMVs, cryogenic portable tanks, and ton tanks. The ANPRM generated comments from 32 stakeholders, many of whom submitted multiple comments—some on the length of the comment period and most on the substance of the ANPRM. The majority of the comments—40 different comments from 21 commenters—were in opposition to the IBR of the two sets of standards into the HMR. In the ANPRM, there were no specific proposals set forth regarding the method of incorporation into the regulations of *Section XII* and the *NBIC* (e.g., replacement of *Section VIII, Division 1* with *Section XII* and the *NBIC* or incorporation by reference of *Section XII* and the *NBIC* as an alternative to *Section VIII, Division 1*). For that reason, it was assumed by many commenters that *Section XII* would outright replace *Section VIII, Division 1* and the HMR, and these commenters voiced their opposition with the belief that they would not have an option to select the standard(s) to use.

#### B. NPRM

The PHMSA published an NPRM on December 30, 2013 [78 FR 79363] in which we proposed to IBR the 2013 edition of *Section XII*, with limited exceptions, as an alternative to existing standards for CTMVs, cryogenic portable tanks, and ton tanks. *Section VIII, Division 1*, as currently authorized in the HMR, applies to new construction only and requires that tanks are marked with a “U” stamp to indicate construction and certification in accordance with that section of the ASME Code. *Section XII* is structured such that it addresses new construction and continued service (e.g., repairs). Tanks constructed under this standard will require a “T” stamp; whereas tanks that are repaired under *Section XII* would be marked with either an “R” or a “TR”

stamp to indicate a repair, dependent on whether the tank was originally constructed and certified according to *Section VIII, Division 1* or *Section XII*, respectively. Further, PHMSA proposed to IBR the 2013 edition of the *NBIC* (including *Supplement 6*) for alterations, repairs, and inspections performed on all ASME-constructed tanks used for the transportation of hazardous materials. This proposed IBR is intended as an alternative to the current IBR edition of the *NBIC* and conditions and limitations in HMR Part 180 used for tanks constructed to *Section VIII, Division 1*. Further, as proposed, use of the updated *NBIC* would be optional for *Section VIII, Division 1* CTMVs but required for *Section XII* authorized transport tanks. The PHMSA provided a comparison of *Section XII* and *Section VIII, Division 1* (supplemented by the current HMR). Readers can review this comparison in its entirety in the NPRM [Docket No. PHMSA-2010-0019 (HM-241)]. Moreover, research and development projects summarized in the NPRM supported the proposed codes and standards to be adopted under this rulemaking docket. From the results of the studies as well as our own analysis, PHMSA concluded that the proposed standards provide an equivalent level of safety to the current structure of standards in the HMR.

The NPRM generated comments from 20 stakeholders. The majority of the comments were in opposition to IBR the two sets of standards into the HMR; two commenters supported the proposals; and three commenters supported the proposals with modification. Several commenters posed questions or proposed additional modifications. Commenters in support of the proposals generally indicated: (1) the need to incorporate *Section XII* to reflect present-day improvements, especially the new definitions of authorized inspection agencies; and (2) providing for an alternative as reasons for support. Commenters opposing the proposals generally indicated: (1) lack of public input and inaccessibility to current and future versions of *Section XII* and the *NBIC*; (2) inefficient and excessive cost to the industry; and (3) no actual

improvement in hazardous materials transportation safety as reasons for opposition.

Commenters also raised questions about how continued service requirements of *Section XII* will affect small industry stakeholders and what role DOT/PHMSA may have in oversight of that process. Commenter concerns are summarized and discussed further below.

#### 1. Lack of Public Input in Future Versions of *Section XII* and the *NBIC*

Commenters expressed concern that decisions relative to the development of the code are heavily weighted to those participating in committee meetings, especially third-party inspection agencies who may be biased by self-interest. Commenters also stated that the process provides no assurance of public input for future revisions to the codes because the National Board, for example, has no legal mandate to provide for future participation by the general public or interested parties.

The PHMSA disagrees. Information about the *Section XII* and *NBIC* development and revision process is made available online to the public, and draft revisions are made available for public review and input.<sup>5</sup> ASME and the National Board are accredited standards developing organizations that meet due process requirements as defined by the non-governmental American National Standards Institute. Furthermore, committee participation is open to anyone with an interest in a particular subject area and with the requisite technical expertise. It may appear that decisions are weighted towards certain committee members, yet committee membership is made up of more than just third-party inspection agencies, as evidenced by the listing of members for the various committees and subcommittees of both ASME and the National Board. This information is also made available to the public.

#### 2. Inefficient and Excessive Cost to the Industry

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<sup>5</sup> For example, public comments may be submitted on proposed new ASME Standards drafts and on proposals to revise existing ASME Standards. All ASME public review proposals are available in hard copy at no cost and some are available electronically also at no cost. See <https://cstools.asme.org/csconnect/PublicReviewpage.cfm>.

Commenters stated *Section XII* would necessitate purchase of new equipment and increased training for both the installation of the equipment and its operation. Furthermore, commenters stated that purchasing new publications from ASME and the National Board, while also maintaining the existing editions and sections, will increase direct costs along with the aforementioned equipment. In addition to purchasing the codes, the cost and maintenance of welding certifications will increase dramatically.

While there may be increased costs to industry, PHMSA does not agree with commenters indicating inefficient or excessive costs for adopting *Section XII* and *NBIC* codes. The PHMSA is proposing to IBR the *Section XII* and *NBIC* codes as an alternative to current requirements for the construction and continued service of certain CTMVs, cryogenic portable tanks, and ton tanks (see Table 2 above). Use of *Section XII* and the *NBIC* will not be mandated, so it will not necessitate equipment purchase, employee training, or code purchase unless it is in the interest of a manufacturer, non-manufacturer, or inspector to do so. Although costs to each type of industry stakeholder will vary, we believe the overall cost burden will be lower because of an expected lower usage rate. It will remain a business decision to construct pressure vessels to *Section VIII, Division 1*, to *Section XII*, or to both. The PHMSA sees this as no different than making a determination to construct all authorized DOT-specification CTMVs or specialize in DOT 400 series CTMVs, for example. Furthermore, we believe it is very likely that many in this industry already have the most current codes in order to maintain their “U” or “R” stamps. We do however acknowledge that those who enforce compliance with these standards will incur a cost (e.g., training) regardless of the usage rate of the new standard.

### 3. No Improvement in Safety

Commenters opposed to the NPRM generally indicated the lack of safety improvements

as a basis for the opposition. The PHMSA does not agree with commenters indicating that adoption of *Section XII* and *NBIC* would provide no improvements in hazardous material transportation safety. The 2015 editions of *Section XII* and the *NBIC* include advancements in design, material, construction, repair, and inspection of transport tanks, and *Section XII* was specifically developed with the transport environment in mind. Furthermore, IBR of these codes provides the public with a more flexible approach to achieve the safety transportation of hazardous material. Specifically, it would allow manufacturers and owners of transport tanks flexibility in the materials they use to build tanks, how they build tanks, and how they test and inspect tanks, while providing at the very least the same level of safety as currently provided by the HMR and *Section VIII, Division 1* for new construction and the HMR for continued qualification and maintenance.

In response to comments and questions about PHMSA's role in continuing service requirements and ensuring compliance with industry standards, from design and manufacturing to repairs, PHMSA is proposing to amend 49 CFR § 107.307(a) to reiterate existing authority to enforce compliance with industry standards incorporated by reference.

#### **IV. SNPRM Summary**

##### **A. Why are we issuing a supplemental notice?**

The PHMSA is issuing an SNPRM rather than a final rule for three basic reasons:

- (1) To provide stakeholders the opportunity to comment on the safety improvements and updates reflected in the revised 2015 editions of *Section XII* and the *NBIC* (and *Supplement 6*);
- (2) To synchronize the timing of our rulemaking action with the biennial updates of *Section XII* and *NBIC* by ASME and the National Board, respectively; and
- (3) To minimize or relieve the public and the government of possible administrative

burdens (e.g., special permit applications) that would be associated with incorporating by reference the 2013 editions, as previously proposed, when 2015 editions have been published.

B. What are we proposing?

In this SNPRM, PHMSA is proposing the following:

(1) IBR the 2015 edition of *Section XII*, (instead of the 2013 edition, as previously proposed for incorporation under the NPRM published December 30, 2013 [78 FR 79363]);

(2) IBR the 2015 edition of the *NBIC* and *Supplement 6* (instead of the 2013 editions, as previously proposed for incorporation under the December 2013 NPRM);

(3) Authorize construction and continued service of CTMVs, cryogenic portable tanks, and ton tanks in accordance with *Section XII*. The following transport tanks would be eligible for construction and continued service under *Section XII*:

| <b>Table 3: Authorized Transport Tanks under <i>Section XII</i></b> |                                       |
|---|---------------------------------------|
| <b>Tank Type</b>  | <b>Specification</b>                  |
| Cargo Tank Motor Vehicles (CTMVs)                                   | MC331, 338, and DOT 406, 407, and 412 |
| Cryogenic Portable Tanks  | UN T75                                |
| Ton Tanks   | DOT-106A and 110AW                    |

Note: Tanks listed in this table that are already constructed under *Section VIII* are not eligible for continued services using *Section XII*.

(4) Require the use of the 2015 *NBIC*, and *Supplement 6* where applicable, for the qualification, requalification, and maintenance of transport tanks (constructed under *Section XII*) listed in Table 3 above;

(5) Authorize the use of the 2015 *NBIC* for the continued service, inspection, and repair of those CTMVs currently in service and constructed to *Section VIII, Division 1* and the HMR.

C. Why incorporate by reference?

Section 12(d) of Public Law 104-113, the National Technology Transfer and Advancement Act of 1995, 15 USC § 272 (hereinafter “the Act”), directs agencies to use voluntary consensus standards in lieu of government-unique standards except where inconsistent

with law or otherwise impractical. “Use” means inclusion of a standard in whole, in part, or by reference in regulation(s). We believe the use of *Section XII* and the *NBIC* is consistent with the Act and serves PHMSA’s program needs by helping to improve safety through authorized use of standards developed specifically with transportation in mind. The use of such standards, whenever practicable and appropriate, is intended to achieve the following goals:

- (1) Eliminate the cost to the Government of developing its own standards and decrease the cost of the burden of complying with agency regulation.
- (2) Provide incentives and opportunities to establish standards that serve national needs.
- (3) Promote efficiency and economic competition through harmonization of standards.

D. Are there any major changes of note between the 2015 and 2013 editions of *Section XII* and the *NBIC* (including *Supplement 6*)?

The PHMSA’s review of the 2015 edition of the codes did not reveal any major substantive differences between the two editions, especially with regard to the *NBIC* and *Supplement 6*. Below we highlight some of the more notable changes to *Section XII* from the 2013 edition to the 2015 edition:

- Revised the general requirements for welding so that the Modal Appendices are used to provide direction for construction;
- Revised Code Case 1750 to include *Section XII* to allow use of additional materials for valves;
- Updated *Section XII* regarding pressure relief devices for consistency with updates to *Section VIII, Division 1* and developed a new Mandatory Appendix XIX based on these updates;
- Updated Modal Appendix 1 (cargo tanks) for allowable stress criteria.



## **V. Section-by-Section Review**

The following is a section-by-section review of the amendments proposed in this SNPRM:

### **A. Part 107**

#### *Section 107.307*

Section 107.307 is the process for compliance orders and civil penalties (i.e., enforcement). In this SNPRM, we are proposing to revise paragraph (a) to reiterate PHMSA's existing authority to enforce compliance with industry standards incorporated by reference into the HMR.

#### *Subpart F*

Subpart F establishes a registration procedure for persons who are engaged in the manufacture, assembly, inspection and testing, certification, or repair of a cargo tank/CTMV manufactured in accordance with a DOT specification or under terms of a special permit issued under Part 107. In this SNPRM, we are not proposing to revise this subpart, but we note for general awareness that the new § 173.14, as discussed below, will reference the registration requirement in this subpart by noting that "inspectors" and "repairers" of these packagings must be registered with the DOT.

### **B. Part 171**

#### *Section 171.7*

Section 171.7 lists IBR material. This SNPRM proposes to amend § 171.7, Reference material, to list the 2015 edition of *Section XII* and the 2015 edition of the *NBIC* and *Supplement 6*. Specifically, a new paragraph (g)(2) will be added to include an entry for 'ASME Code Section XII' in addition to the currently referenced sections of the 1998 edition of the 'ASME Code', e.g., *Section VIII, Division 1*. We will make a conforming amendment to redesignate

current paragraph (g)(2) as (g)(3) for ASME B31.4-1998 Edition, *Pipeline Transportation Systems for Liquid Hydrocarbons and other Liquids, Chapters II, III, IV, V, and VI*, November 11, 1998. In addition, we propose to amend § 171.7 to include the 2015 editions of the *NBIC* and *Supplement 6*. Specifically, paragraph (x)(2) will be revised to include an entry for ‘NBIC 2015,’ and a new paragraph (x)(3) will be added for ‘NBIC 2015, Supplement 6.’

C. Part 173

*Section 173.14*

In this SNPRM, we are proposing to add a new § 173.14 for authorization of and conditions on the use of *Section XII* for the construction and continued service of certain types of transport tanks discussed above, as follows:

For All Tank Types. Conditions for all authorized tank types will be specified in paragraph (a)(1) as follows:

- Authorized IBR material includes ASME *Section XII* Modal Appendices, Mandatory Appendices, and Non Mandatory Appendices; and use of ASME *Section II* materials, *Section V* Nondestructive Examination, *Section VIII, Division 1* for parts only, *Section VIII, Division 2* for Fatigue Analysis only, *Section IX* for welding and brazing in accordance with *Section XII* requirements; authorized IBR material also includes the *NBIC Parts 1, 2, and 3*, and *Supplement 6 of Parts 2 and 3*;
- The *NBIC* and *Supplement 6* must be used for the design, repair, alteration, certification, qualification, and maintenance of cargo tank motor vehicles, cryogenic portable tanks, and multi-unit tank car tanks (ton tanks) constructed to *Section XII*;
- Nameplate character markings must be a minimum 4 mm (5/32”); markings directly on the tank must be a minimum 8 mm (5/16”);

- Marking must be in accordance with *Supplement 6*. Periodic test information is prohibited on the ASME nameplate;
- Inspection personnel must have qualifications as required by *Section XII*, Article TG-4, and as evident by having a current National Board commission with endorsement for the level and type of inspection (Transport Tank Class) to be performed, or certification from their employer when applicable;
- Inspectors or their employer must be registered with DOT; and
- Repairs must be performed by a facility holding a current National Board certificate of authorization for the use of the National Board “TR” or “R” stamp.

For CTMVs. Conditions and requirements specific to CTMVs will be specified in paragraph (a)(2). The CTMVs must also conform to all applicable requirements of Part 173 of the HMR and must meet: *Section XII, Modal Appendix 1* and the appropriate *Article* of the appendix for the category of CTMV; all *Mandatory Appendices*; and applicable *Non Mandatory Appendices*, except as follows:

- Repairs must be performed by a DOT-registered facility holding a current National Board certificate of authorization for the use of the “TR” or “R” stamp; and
- For Category 338 Cargo Tanks (synonymous with DOT MC 338 CTMVs), *Section XII, Modal Appendix 1, Article 4, paragraph 1-4.4(g)(6)* does not apply. A minimum jacketed thickness of 2.4 mm (0.0946 in) 12 gauge in the reference steel is allowed.

For Cryogenic Portable Tanks. Conditions and requirements specific to cryogenic portable tanks will be set forth in paragraph (a)(3). These portable tank types must also conform to all applicable requirements of Part 173 of the HMR and must meet: *Section XII, Modal Appendix 3, Article 1*; all *Mandatory Appendices*; and applicable *Non Mandatory Appendices*,

except as follows:

- External and internal visual inspections in accordance with *Supplement 6* are required in addition to *Section XII, Modal Appendix 3, Article 1, paragraph 3-1.10(b)* and *Article 1, 3-1.10(b)(5)*; and

- *Section XII, Modal Appendix 3, Article 1, paragraph 3-1.10* requires repairs to be performed by a facility holding a current National Board certificate of authorization for the use of the “TR” or “R” stamp. Records must be in accordance with the *Supplement 6*, as applicable.

For Ton Tanks. Conditions and requirements specific to ton tanks will be set forth in paragraph (a)(4). Ton tanks must conform to all applicable requirements of Part 173 and must meet: *Modal Appendix 4, Article 1*; all *Mandatory Appendices*; and applicable *Non Mandatory Appendices*, except as follows:

- *Section XII, Modal Appendix 4, Article 1, paragraph 3-1.10.* Manufacturer-certified fusible plugs tested and qualified under the fuse plug manufacturers’ written quality control system are required;

- *Section XII, Modal Appendix 4, Article 1, paragraph 4-8.* Non-ASME marked fusible plugs are allowed;

- *Section XII, Modal Appendix 4, Article 1, paragraph 4-12(a).* External and internal visual inspections must be in accordance with *Supplement 6*;

- *Section XII, Modal Appendix 4, Article 1, paragraph 4-12(e).* Records must be kept in accordance with *Supplement 6*; and

- A ton tank that fails a prescribed test or inspection must be repaired as specified in the *NBIC* or removed from service.

D. Part 178

*Section 178.278*

We propose a new § 178.278 authorizing the use of *Section XII* and the *NBIC* (and *Supplement 6*) for construction and qualification of cryogenic portable tanks.

*Section 178.300*

We propose a new § 178.300 authorizing the use of *Section XII* and the *NBIC* (and *Supplement 6*) for construction and qualification of cargo tank motor vehicles.

E. Part 179

*Section 179.302*

We propose a new § 179.302 authorizing the use of *Section XII* and the *NBIC* (and *Supplement 6*) for construction and qualification of ton tanks.

F. Part 180

*Section 180.402*

We propose a new § 180.402 authorizing use of the *NBIC* for the continuing qualification and maintenance of CTMVs.

*Section 180.413*

We propose to revise § 180.413 to authorize use of the *NBIC* with *Section VIII, Division 1* for the continued service of CTMVs.

*Section 180.502*

We propose a new § 180.502 authorizing use of the *NBIC* for the continuing qualification and maintenance of ton tanks constructed to *Section XII*.

*Section 180.602*

We propose a new § 180.602 authorizing use of the *NBIC* for the continuing qualification

and maintenance of cryogenic portable tanks constructed to *Section XII*.

## **VI. Regulatory Analyses and Notices**

### **A. Statutory/Legal Authority for this Rulemaking**

This SNPRM is published under the authority of the Federal Hazardous Materials Transportation Law, 49 U.S.C. § 5101 *et seq.* Section 5103(b) authorizes the Secretary to prescribe regulations for the safe transportation, including security, of hazardous material in intrastate, interstate, and foreign commerce. This SNPRM provides an alternative to the current process for the construction and continued service of CTMVs, cryogenic portable tanks, and ton tanks, without compromising safety.

The Administrative Procedure Act (APA) requires Federal agencies to give interested persons the right to petition an agency to issue, amend, or repeal a rule (5 U.S.C. 553(e)). Section 106.95 of the HMR, provides the process and procedures for persons to petition PHMSA to add, amend, or delete a regulation. In this SNPRM, PHMSA is addressing this statutory requirement by considering petitions for rulemaking from ASME, the National Board, and the Pressure Vessels Manufacturers Association.

### **B. Executive Order 12866, Executive Order 13563, Executive Order 13610, and DOT Regulatory Policies and Procedures**

This SNPRM is not considered a significant regulatory action under Section 3(f) of Executive Order 12866 (“Regulatory Planning and Review”) and, therefore, was not reviewed by the Office of Management and Budget (OMB). The proposed rule is not considered a significant rule under the Regulatory Policies and Procedures order issued by the U.S. Department of Transportation [44 FR 11034].

Executive Order 13563 (“Improving Regulation and Regulatory Review”) supplements and reaffirms the principles, structures, and definitions governing regulatory review that were established in Executive Order 12866, published September 30, 1993. Executive Order 13563, issued January 18, 2011, notes that our nation’s current regulatory system must not only protect public health, welfare, safety, and our environment but also promote economic growth, innovation, competitiveness, and job creation.<sup>6</sup> Further, this executive order urges government agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public. In addition, Federal agencies are asked to periodically review existing significant regulations; retrospectively analyze rules that may be outmoded, ineffective, insufficient, or excessively burdensome; and modify, streamline, expand, or repeal regulatory requirements in accordance with what has been learned.

Executive Order 13610 (“Identifying and Reducing Regulatory Burdens”), issued May 10, 2012, urges agencies to conduct retrospective analyses of existing rules to examine whether they remain justified or whether they should be modified or streamlined in light of changed circumstances, including the rise of new technologies.<sup>7</sup>

By building off of each other, these three Executive Orders require agencies to regulate in the “most cost-effective manner,” to make a “reasoned determination that the benefits of the intended regulation justify its costs,” and to develop regulations that “impose the least burden on society.”

The PHMSA believes that if the 2015 editions of *Section XII* and the *NBIC* are incorporated as alternatives to *Section VIII, Division I* and the HMR, transport tank manufacturers and owners would be provided with more flexibility and freedom of choice

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<sup>6</sup> See <http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order>

<sup>7</sup> See <http://www.gpo.gov/fdsys/pkg/FR-2012-05-14/pdf/2012-11798.pdf>

regarding material of construction and design for new construction, allowing for lighter-weight, higher-capacity tanks capable of transporting more material per shipment. Transport tanks built to *Section XII* will have been examined by certified inspectors to ensure that they withstand conditions and stresses unique to transportation, such as rollovers, bottom damage, or piping damage. Furthermore, we believe the flexibility in selection of the ASME standard of construction will facilitate international competitiveness for the transport of hazardous materials; this flexibility will also eliminate barriers for U.S. manufacturers transporting goods internationally that have been caused by the inflexible material construction requirements in *Section VIII, Division 1* and the HMR. Further, the ASME standards have been deemed equivalent by PHMSA technical staff and have been proven to provide, through special permits, an equivalent level of safety to that of transport tanks constructed and designed according to the specifications currently provided in the HMR.

The overall costs and benefits associated with this SNPRM and the supporting calculations are included in the supplement to the NPRM regulatory impact analysis (RIA) provided in the docket for this rulemaking. For specific responses to comments received to the NPRM please see Section III of this document. Below is a brief summary of the affected entities, as well as the costs and benefits of this SNPRM:

#### *Costs*

The majority of the new costs that would result from the optional use of the IBR of the 2015 edition of ASME *Section XII* and the *NBIC* are due to training and certification of stakeholders on the requirements of the updated codes. There are three primary groups of affected entities: 1) manufacturers of tanks; 2) non-manufacturers (e.g., repair firms); and 3) inspectors. Using industry employment and wage data from the U.S. Department of Labor, we estimated the number of transport tank manufacturing firms, non-manufacturing firms involved



in the repair and maintenance of tanks, and tank inspectors in the United States. The new costs to each of the three stakeholder groups are described below.

### 1. Manufacturers

Using data from the Bureau of Labor Statistics (BLS), the Steel Tank Institute (STI), the Pressure Vessel Manufacturers Association (PVMA), and ASME’s Pressure Vessel Manufacturer Members, we estimate that there are 290 manufacturers of portable tanks, ton tanks, and CTMVs. Collectively, these firms employ approximately 8,889 individuals directly involved in production and maintenance of transport tanks (e.g., boilermakers, mechanical engineers, production occupations, mechanical drafters, industrial production managers, commercial and industrial designers, and mechanical engineering technicians).<sup>8</sup> Each manufacturer would be required to purchase a copy of the *Section XII* code and manufacturing employees would need to take ASME’s online training course, both of which would impose costs.

New vessels manufactured under *Section XII* would be required to hold an ASME “T” stamp of authorization, and repairs or alterations to these vessels must be performed by a holder of a “TR” Certificate of Authorization (although ASME may opt to not utilize this “TR” stamp and just require the current “R” stamp that is required). This is an alternative to manufacturing, repairing, and altering under the *Section VIII* code, where transport tanks have ASME “U” stamps and repairs and authorizations are made by holders of an “R” Certificate of Authorization. Purchase of this stamp is another source of costs. The costs and the calculations supporting them are included in the supplement to the NPRM RIA provided in the docket for this rulemaking.

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<sup>8</sup> U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2011.  
<http://www.bls.gov/oes/current/oes111021.htm>

## 2. Non-manufacturers

Using data from the BLS, we estimate there are 3,863 non-manufacturers, collectively employing 6,839 individuals directly engaged in the repair, maintenance, and alteration of transport tanks or performing associated design and supervision tasks. Non-manufacturers include repair and maintenance firms of pressure vessels. All repair firms would be required to purchase a copy of both *ASME Section XII* and the *NBIC* which would impose a cost. In addition, non-manufacturers that repair or alter tanks would be required to change the scope of their existing “R” Certificate of Authorization or obtain a “TR” certificate from the National Board, which would impose a cost. These costs and the calculations supporting them are included in the supplement to the NPRM RIA provided in the docket for this rulemaking.

## 3. Inspectors

Tank inspectors include third-party inspectors, owner-user inspectors, chief boiler inspectors, and public inspectors. Data from the National Board of Boiler and Pressure Vessel Inspectors indicate that there are 41 authorized third-party agencies.<sup>9</sup> Assuming there is an average of 10 inspectors at each agency, we estimate that there are approximately 410 third-party inspectors in the United States. In addition, the National Board of Boiler and Pressure Vessel Inspectors show that there are 69 owner-user inspector organizations, which are defined as “owner-user[s] of pressure equipment that [maintain] an established inspection program and whose organization and inspection procedures meet the requirements of NB-371, Accreditation of Owner-User Inspection Organization.”<sup>10</sup> Also, using data from the Department of Labor, we

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<sup>9</sup> The National Board of Boiler and Pressure Vessel Inspectors - New Construction Authorized Inspection Agencies Listing <http://www.nationalboard.org/Index.aspx?pageID=66&ID=122> and The National Board of Boiler and Pressure Vessel Inspectors - Inservice Authorized Inspection Agencies Listing <http://www.nationalboard.org/Index.aspx?pageID=66&ID=123>

<sup>10</sup> National Board of Boiler and Pressure Vessel Inspectors - Owner-User Inspection Organizations <http://www.nationalboard.org/Index.aspx?pageID=67>

estimate that there are 549 public inspectors by applying the average figure for boiler inspectors per 100,000 capita from the 2010 economic census to estimate the number of public boiler inspectors in each state. Incorporating by reference *Section XII* and the *NBIC* will require inspection services to use the *NBIC* classifications of Authorized Inspectors (AIs) and Certified Individuals (CIs). Third-party and chief boiler inspectors would need to complete *NBIC* training to become familiar with the *Section XII* standards. These classifications and trainings would impose some costs on inspectors. These costs and the calculations supporting them are included in the supplement to the NPRM RIA provided in the docket for this rulemaking.

### *Benefits*

Based on the information presented in the “Section XII Code Differences” document, there are several opportunities for cost savings if the 2015 editions of *Section XII* and the *NBIC* are incorporated. There are three differing aspects of tank design requirements between *Section VIII, Division 1* and *Section XII*: (1) the required tensile strength margin is reduced from 4.0 to 3.5; (2) a new rational design to reduce shell and head thickness is allowed; and (3) tanks are allowed to be used until they reach the minimum allowed thickness, which increases tanks’ useful lives. These benefits and the calculations supporting them are included in the supplement to the NPRM RIA provided in the docket for this rulemaking.

### *Conclusion*

As this SNPRM authorizes the voluntary use of the 2015 editions of *Section XII* and the *NBIC*, a range of costs and benefits (as seen in Table 4 below) were derived based on differing percentages of implementation. The overall costs and benefits, and the calculations supporting them, are included in the supplement to the NPRM RIA provided in the docket for this rulemaking. In addition, this document also includes a sensitivity analysis that varies a number of factors.

| Table 4: Net Benefit Estimates         |   |
|--|---|
| Annualized Benefits and Costs          |   |
|  | Estimate  |
| Estimated Benefits                     | \$18,006,640 (low) to \$21,598,728.37 (high)    |
| Estimated Costs                        | \$10,167,783 (low) to \$15,480,558 (high)       |
| <b>Net</b>                             | <b>\$2,526,082 (low) to \$11,430,946 (high)</b> |
| Annualized Per Tank Benefits and Costs |   |
|  | Estimate  |
| Estimated Benefits                     | \$76 (low) to \$91 (high)                       |
| Estimated Costs                        | \$43 (low) to \$77 (high)                       |
| <b>Net</b>                             | <b>\$10 (low) to \$48 (high)</b>                |

### C. Executive Order 13132

This proposed rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 (“Federalism”) and the President’s memorandum (“Preemption”) that was published in the Federal Register on May 22, 2009 [74 FR 24693]. This proposed rule will preempt State, local, and Indian tribe requirements but does not propose any regulation that has substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

The Federal Hazardous Materials Transportation Law, 49 U.S.C. 5101–5128, contains an express preemption provision (49 U.S.C. 5125 (b)) that preempts State, local, and Indian tribe requirements on the following subjects:

- (1) The designation, description, and classification of hazardous materials;
- (2) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials;
- (3) The preparation, execution, and use of shipping documents related to hazardous

materials and requirements related to the number, contents, and placement of those documents;

(4) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; and

(5) The design, manufacture, fabrication, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material.

This proposed rule addresses packaging for hazardous materials. If adopted as final, this rule will preempt any State, local, or Indian tribe requirements concerning packaging for hazardous materials unless the non-Federal requirements are “substantively the same” as the Federal requirements. Furthermore, this proposed rule is necessary to update, clarify, and provide relief from regulatory requirements.

Incorporation of new consensus standards by reference in the HMR may impact state and local CTMV enforcement programs. Potential impacts include the cost of purchasing the new *Section XII* standards and the training of employees. However, PHMSA notes that many state enforcement personnel are not currently equipped with *Section VIII, Division 1* and must use outside sources to reference this standard. It is our understanding that during roadside inspections, state officials are most often concerned with identifying that the ASME mark is intended for the packaging on which it is stamped. This would not require state governments to purchase copies of *Section XII* for every state trooper. Rather, the most in-depth inspection performed on a tank is handled by an independent third-party inspector, typically a National Board-commissioned inspector from an insurance company. This would also apply to the repair of the ASME packaging using the *NBIC*, which also requires a marking. Furthermore, as engineers at PHMSA were instrumental in developing *Section XII* and the *NBIC*, they understand

them and are available to help interpret the standards. As with other highly technical or scientific standards that we incorporate in the HMR, PHMSA's Hazardous Materials Information Center staff will have access to the engineers who helped develop the standards. We invite State and local governments with an interest in this rulemaking to comment on any revisions to the HMR in hopes to address the issues that this proposed rule may cause.

D. Executive Order 13175

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13175 ("Consultation and Coordination with Indian Tribal Governments"). The PHMSA is not aware of any significant or unique affects or substantial direct compliance costs on the communities of the Indian tribal governments from proposals in this rulemaking. Therefore, we conclude that the funding and consultation requirements of Executive Order 13175 do not apply. However, we invite Indian tribal governments to provide comments should they believe there will be an impact.

E. Regulatory Flexibility Act, Executive Order 13272, and DOT Regulatory Policies and Procedures

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires an agency to review regulations to assess their impact on small entities unless the agency determines that a rule is not expected to have a significant impact on a substantial number of small entities. This notice has been developed in accordance with Executive Order 13272 ("Proper Consideration of Small Entities in Agency Rulemaking") and DOT's Policies and Procedures to promote compliance with the Regulatory Flexibility Act to ensure that potential impacts of draft rules on small entities are properly considered.

The adoption of *Section XII* will not have a significant impact on a substantial number of small entities, or even any foreseeable impact on small businesses, given that the provisions proposed under this supplemental notice are optional. Furthermore, PHMSA reviewed the safety records of both transport tanks constructed under the current method of construction authorized under the HMR and transport tanks constructed to ASME *Section XII* under special permits and found no differences in the safety record between the two methods of construction.

We estimate that there are approximately 5,200 businesses likely to be affected by this rule. The Small Business Administration (SBA) uses industry-specific standards to estimate which of those are “small businesses.” The PHMSA assumes that a significant number of businesses within the regulatory scope (nearly all) are small.

Based on our analysis, the three major industries—manufacturers, third-party inspection agencies, and tank repair services—could, at their discretion, conform to the new standards. Manufacturers could introduce new materials; third-party inspectors could conduct more current, meaningful tests that are relevant to more transport specific designs; and tank repair services could expand to accommodate the new standards.

Based on the expected service life of a transport tank of 30 years, we assume that only 1/30 of all transport tanks will be replaced each year. Given the optional nature of this rule, the newly constructed tanks will consist of some combination of *Section XII* transport tanks and some *Section VIII, Division 1* transport tanks. A manufacturer will build tanks according to demand, including price. At the same time, we believe repairers and inspectors will be able to adjust and accommodate the small number of *Section XII* transport tanks entering the market each year.

Based upon our above-mentioned 5,200 estimated businesses and assumptions, PHMSA certifies that the proposals in this SNPRM will not have a significant economic impact on a substantial number of small entities. In this notice, PHMSA is soliciting further comment on this conclusion that the proposals in this SNPRM will not cause a significant economic impact on a substantial number of small entities.

F. Paperwork Reduction Act

Section 1320.8(d), Title 5, Code of Federal Regulations requires that PHMSA provide interested members of the public and affected agencies an opportunity to comment on information collection and recordkeeping requests. The recordkeeping requirements in *Section XII* and the *NBIC* are analogous; thus, the recordkeeping costs of complying with *Section XII* and the *NBIC* are no different than those required under the current regulatory scheme. Moreover, we believe the recordkeeping requirements of *Section XII* and *NBIC* (specifically *Supplement 6*) are more straightforward.

G. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

H. Unfunded Mandates Reform Act

This proposed rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of \$141,300,000 or more to either State, local, or tribal governments, in the aggregate, or to the private sector, and it is the least burdensome alternative that achieves the objective of the rule.



## I. Environmental Assessment

The National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321–4347), and implementing regulations by the Council on Environmental Quality (CEQ) (40 CFR Part 1500) require Federal agencies to consider the consequences of Federal actions and prepare a detailed statement on actions that significantly affect the quality of the human environment.

The CEQ regulations order Federal agencies to conduct an environmental assessment considering the following: (1) the need for the proposed action, (2) alternatives to the proposed action, (3) probable environmental impacts of the proposed action and alternatives, and (4) the agencies and persons consulted during the consideration process (see 40 CFR § 1508.9(b)).

### 1. Need for the proposal

The PHMSA is proposing this rulemaking to IBR the 2015 editions of *Section XII* and the *NBIC* to provide greater flexibility in the manufacture and repair of authorized transport tanks by authorizing manufacture-to-industry standards (i.e., *ASME Section XII* developed specifically with transportation in mind).

### 2. Alternatives considered

The PHMSA is considering the following alternatives:

- Alternative 1 is to take no action;
- Alternative 2 is to IBR *Section XII* and *NBIC* (including *Supplement 6*) and mandate its use by removing *Section VIII, Division 1*;
- Alternative 3 is to IBR *Section XII* and allow use of *Section XII* as an alternative construction standard to *Section VIII, Division 1* and the HMR. Use of the *NBIC* for continued service *Section VIII, Division 1* would be optional, while use of the

*NBIC* for continued service of *Section XII* transport tanks would be required; and

- Alternative 4 is to allow use of the *Section XII* standards through Special Permit.

Each alternative presented represents different levels of adoption of *Section XII*, from Alternative 1 (0%) to Alternative 2 (100%). Alternatives 3 and 4 may result in a distribution of use between these extremes. It is difficult to find a firm basis to project future market activity—i.e., to calculate the expected distribution of transport tank manufacture between the two standards. However, PHMSA believes that the IBR of *Section XII* would provide an opportunity for savings to both the manufacturer and the user of the tanks.

Alternative 1: No action. For this alternative, the HMR would remain unchanged. This is not the preferred alternative. This alternative maintains the status quo both for the construction and design of *Section VIII, Division 1* CTMVs, cryogenic portable tanks, and ton tanks and for the continued service transport under Part 180 (including the 1992 edition of the *NBIC* for CTMVs). Though *Section VIII, Division 1* sets forth detailed criteria for the design, construction, certification, and marking of stationary boilers and pressure vessels, it does not account for the unique conditions and stresses encountered in the transportation environment. The HMR addresses this deficiency by adding requirements to account for conditions and stresses likely to occur in transportation. This alternative would not impose any costs, but it would prevent the opportunity to realize any gains in efficiency.

Alternative 2: IBR and require use of both *Section XII* and *NBIC* and remove *Section VIII, Division 1*. This is not the preferred alternative either. This alternative would require transport tanks to be built to transport-specific design standards, thus improving efficiencies through greater design flexibility and variety in material of construction. This alternative would likely lead to less fuel consumption because of larger tank capacities, and *Section XII* would also

provide for more uniform enforcement over time. However, implementing this alternative may preclude a normal market-based transition from one standard to another, and complying with new standards would effectively force manufacturers to make such a transition regardless of costs associated with equipment investments and personnel changes. Many commenters expressed concern that imposing new ASME construction standards would unduly burden them either immediately or in the future, and without recourse. Costs would include the purchase of *Section XII* and the *NBIC*, stamp certification, and familiarization training.

Alternative 3: *IBR and authorize use of Section XII as an alternative to Section VIII, Division 1, and use of the NBIC for continued service, as applicable.* This option is the preferred alternative because it would provide regulatory flexibility without diminishing current safety standards or imposing burdensome costs. Specifically, it would provide more freedom for the marketplace with respect to the construction of transport tanks, while at the same time providing for pressure vessel options geared towards the transport environment. Furthermore, this alternative would authorize the use of the 2015 edition of the *NBIC* as it applies to existing tanks and would require its use for those transport tanks built to *Section XII*, as required by *Section XII*.

Alternative 4: *Allow use of Section XII through special permit application.* For this alternative, the HMR would also remain unchanged. This is not the preferred alternative. This alternative presents the option to produce, use, and maintain transport tanks manufactured to *Section XII* through a special permit. The PHMSA would allow technological advancement yet also maintain some oversight over the manufacture of these transport tanks. The PHMSA has already issued two special permits related to *Section XII*. This option would require positive action by manufacturers to apply for a special permit. While this may be a more cautious approach, under this option each special permit application would require technical drawings and

incur the costs and administrative burdens associated with special permit requests, including the factual analysis required and “party-to” applications. The PHMSA estimates that the typical special permit application costs \$45 to the applicant and \$3,000 for us to evaluate.

The PHMSA is proposing Alternative 3, as it was found to be optimal. Benefits associated with the rule include lower manufacturing costs and higher capacities for shippers. Costs to industry are minimal and incurred only when the manufacturer decides to build tanks to the *Section XII* standards.

### 3. Environmental Consequences

When developing potential regulatory requirements, PHMSA evaluates the requirements to consider the environmental impact. Specifically, PHMSA evaluates the following: the risk of release and resulting environmental impact; the risk to human safety, including any risk to first responders; the longevity of the packaging; and the circumstances in which the regulations would be carried out (i.e., the defined geographic area, the resources, any sensitive areas) and how they could thus be impacted.

The non-editorial proposed provisions of this SNPRM are discussed in further detail and evaluated based on their overall environmental impact, as follows:

Environmental benefits result from fewer trips for CTMVs, cryogenic portable tanks, and ton tanks used to transport the same quantities of hazardous materials, because of greater capacities. In most cases, due to alternative materials of construction, the thickness of the tank shells can be reduced, permitting more material to be hauled and reducing the number of trips needed to handle the same volume of product. For example, an MC 331 propane tank manufactured according to *Section XII* would have a 12.5 percent reduction in wall thickness when compared to *Section VIII, Division 1*. This reduction would lead to at least a 2 percent

increase in product capacity while maintaining the current level of safety. As supported by the studies referenced in the December 30, 2013 NPRM and based on the analysis of both sections of the ASME code, PHMSA asserts that despite the reduction in the design margin, the standards provide an equivalent level of safety. Because the proposed alternatives would provide the same level of safety, the expectation is that the risk of incidents is reduced proportionally to the reduction of vehicle trips to move authorized packaging.

#### 4. Federal Agencies Consulted

In an effort to ensure all appropriate Federal stakeholders are provided a chance to provide input on potential rulemaking actions, PHMSA, as part of its rulemaking development, consults other Federal agencies that could be potentially affected. In developing this rulemaking action, PHMSA consulted the Federal Motor Carrier Safety Administration (FMCSA), Federal Railroad Administration (FRA), Environmental Protection Agency (EPA), and Occupational Safety and Health Administration (OSHA).

#### 5. Conclusion

This SNPRM proposes to IBR *Section XII* and the *NBIC* as alternatives to *Section VIII, Division 1* and the HMR. As discussed above, PHMSA believes these standards provide an equivalent level of safety and the proposals in this SNPRM are environmentally neutral. In fact, depending on the level of usage of *Section XII* and subsequent reduction of the number of tanks needed to handle the same volume of product, this rule may prove environmentally beneficial over time. However, PHMSA welcomes any data, information, or comments related to environmental impacts that may result from the proposal discussed in this notice.

#### J. Privacy Act

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78), or you may visit <http://www.dot.gov/privacy>.

#### K. International Trade Analysis

The Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. For purposes of these requirements, Federal agencies may participate in the establishment of international standards, so long as the standards have a legitimate domestic objective, such as providing for safety, and do not operate to exclude imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The PHMSA participates in the establishment of international standards in order to protect the safety of the American public, and we assess the effects of any rule to ensure that it does not exclude imports that meet this objective. *Section XII* is written using terminology compatible with international standards such as the *UN Recommendations* and International Maritime Dangerous Goods Code. The intent is for the standards to be used globally, and several foreign manufacturers already possess the “T” stamp certification indicating the ability to manufacture transport tanks in accordance with the updated section of the code. Furthermore, one of the transport tanks that can be constructed in accordance with *Section XII* is a UN T75 cryogenic portable tank. Accordingly, incorporating

*Section XII*, and the companion *NBIC*, as alternatives to *Section VIII, Division 1* and the HMR would be consistent with PHMSA's obligations under the Trade Agreement Act, as amended.

## **VII. List of Subjects**

### 49 CFR Part 107

Administrative practice and procedure, Hazardous materials transportation, Packaging and containers, Penalties, Reporting and recordkeeping requirements.

### 49 CFR Part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Incorporation by Reference, Reporting and recordkeeping requirements.

### 49 CFR Part 173

Hazardous materials transportation, Packaging and containers, Radioactive materials, Reporting and recordkeeping requirements, Uranium.

### 49 CFR Part 178

Hazardous materials transportation, Motor vehicle safety, Packaging and containers, Reporting and recordkeeping requirements.

### 49 CFR Part 179

Hazardous materials transportation, Railroad safety, Reporting and recordkeeping requirements.

## 49 CFR Part 180

Hazardous materials transportation, Motor carriers, Motor vehicle safety, Packaging and containers, Railroad safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR Chapter I is amended as follows:

### **PART 107—HAZARDOUS MATERIALS PROGRAM PROCEDURES**

1. The authority citation for part 107 continues to read as follows:

**Authority:** 49 U.S.C. 5101–5128, 44701; Pub. L. 101–410 section 4 (28 U.S.C. 2461 note); Pub. L. 104–121 sections 212–213; Pub. L. 104–134 section 31001; Pub. L. 112–141 section 33006, 33010; 49 CFR 1.81 and 1.97.

2. In § 107.307, revise the paragraph (a) introductory text to read as follows:

#### **§ 107.307 General.**

(a) When the Associate Administrator and the Office of Chief Counsel have reason to believe that a person is knowingly engaging or has knowingly engaged in conduct which is a violation of the Federal Hazardous Material Transportation Law or any provision of this subchapter or subchapter C of this chapter, or any standard incorporated by reference in subchapter C of this chapter, or any exemption, special permit, or order issued thereunder, for which the Associate Administrator or the Office of Chief Counsel exercise enforcement authority, they may—

\* \* \* \* \*

### **PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS**

3. The authority citation for part 171 continues to read as follows:

**Authority:** 49 U.S.C. 5101–5128, 44701; Pub. L. 101–410 section 4 (28 U.S.C. 2461



note); Pub. L. 104–134, section 31001; 49 CFR 1.81 and 1.97.

4. In § 171.7,

- a. Redesignate paragraph (g)(2) as (g)(3);
- b. Add new paragraph (g)(2); and
- c. Revise paragraph (x)(2).

The amendments read as follows:

**§ 171.7 Reference material.**

\* \* \* \* \*

(g) \* \* \*

(2) 2015 ASME Boiler and Pressure Vessel Code (ASME Code Section XII), 2015 Edition, July 1, 2015 (as follows), into §§ 173.14, 178.278, 178.301, 179.302:

(i) Section XII – Rules for Construction and Continued Service of Transport Tanks.

(3) ASME B31.4-2012, Pipeline Transportation Systems for Liquids and Slurries, November 12, 2012, into § 173.5a.

\* \* \* \* \*

(x) \* \* \*

(2) 2015 National Board Inspection Code (NBIC), A Manual for Boiler and Pressure Vessel Inspectors, 2015 Edition, into §§ 173.14, 178.278, 178.301, 179.302, 180.402, 180.502, 180.602:

(i) Supplement 6, Continued Service and Inspection of DOT Transport Tanks, 2015 Edition.

\* \* \* \* \*

**PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND  
PACKAGINGS**

5. The authority citation for part 173 continues to read as follows:

**Authority:** 49 U.S.C. 5101–5128, 44701; 49 CFR 1.81, 1.96 and 1.97.

6. Add § 173.14 to read as follows:

**§ 173.14 Authorization and conditions for the use of ASME Code Section XII.**

This section authorizes, with certain conditions and limitations, the use of ASME Code Section XII (IBR, see § 171.7) for the construction and continued service of cargo tank motor vehicles, cryogenic portable tanks, and multi-unit tank car tanks (ton tanks). The following table presents the transport tanks authorized for construction using ASME Code Section XII.

| <b>Authorized Specification Packaging using Section XII</b> |  |
|---|--|
| <b>Tank Type</b>  | <b>Specification</b>                   |
| Cargo Tank Motor Vehicles (CTMVs)                           | MC 331, 338, and DOT 406, 407, and 412 |
| Cryogenic Portable Tanks                                    | UN T75                                 |
| Ton Tanks   | DOT-106A and 110AW                     |

Conditions and limitations on the use of the ASME Code Section XII for design, construction, qualification and certification, and maintenance are as follows—

(a) All tank types. (1) Use of ASME Code Section XII for design, construction, qualification, and certification of authorized packaging includes use of ASME Code Sections II (Materials), Section V (Nondestructive Examination); Section VIII (Rules for Construction of Pressure Vessels), Division 1 for parts only, and Division 2 for fatigue analysis only; and Section IX, (Welding, Brazing, and Fusing Qualifications);

(2) Continuing qualification and maintenance of cargo tank motor vehicles, cryogenic portable tanks, and ton tanks must be in accordance with the NBIC and Supplement 6 (IBR, see § 171.7) in conjunction with ASME Code Section XII as authorized in part 180 of this subchapter;

(3) Nameplate character markings must be a minimum 4 mm (5/32”), markings directly on the tank must be a minimum 8 mm (5/16”);

(4) Periodic test information is not permitted on the ASME nameplate. Marking must be in accordance with the Supplement 6;

(5) A person performing a certification inspection (i.e., an inspector) must be qualified in accordance with ASME Code Section XII under its general rules for inspection (Article TG-4), and hold either a current National Board of Boiler and Pressure Vessel Inspectors (National Board) commission and endorsement of the ASME tank class (e.g., Class 3 for DOT 406 cargo tanks) for the type of inspection to be performed or, when applicable, a certification (in accordance with the NBIC) from his or her employer. Inspectors of cargo tanks, or their employer, must be registered with DOT in accordance with 49 CFR part 107, subchapter F; Inspectors of cryogenic portable tanks and ton tanks need to be registered with DOT through approval by the Associate Administrator prior performing inspection duties;

(6) A person (e.g., a facility) performing repairs on a cargo tank authorized under this section must hold a current National Board certificate of authorization for the use of the National Board “TR” or “R” stamp. Persons, or the employer, performing repairs on cargo tanks must also be registered with DOT in accordance with 49 CFR part 107, subchapter F; Repairers of cryogenic portable tanks and ton tanks must obtain prior approval from the Associate Administrator to make repairs.

(b) Cargo tank motor vehicles. A cargo tank motor vehicles must conform to all applicable requirements of this part, and must meet to ASME Code Section XII, Modal Appendix 1 (for cargo tanks), all Mandatory Appendices and Non Mandatory Appendices, except as follows:

(1) For MC 338 Cargo Tanks, ASME Code Section XII, Modal Appendix 1, Article 4, paragraph 1-4.4(g)(6) does not apply. A minimum jacketed thickness of 2.4 mm (0.0946 in) 12 gauge in the reference metal is permitted.

(c) Cryogenic portable tanks. Cryogenic portable tanks must conform to all applicable requirements of this part, and must meet ASME Code Section XII, Modal Appendix 3, Article 1, all Mandatory Appendices and Non Mandatory Appendices, except as follows:

(1) An inspector must perform external and internal visual inspection in accordance with Supplement 6 (IBR, see § 171.7) in addition to ASME Code Section XII, Modal Appendix 3, Article 1, paragraph 3-1.10(b), and Article 1, 3-1.10(b)(5);

(2) ASME Code Section XII, Modal Appendix 3, Article 1, paragraph 3-1.10(b)(6) does not apply; and

(3) Records must be kept in accordance with the Supplement 6, as applicable.

(d) Ton tanks. Ton tanks must conform to all applicable requirements of this part and must meet ASME Section XII, Modal Appendix 4, Article 1, all Mandatory Appendices and Non Mandatory Appendices, except as follows:

(1) ASME Code Section XII, Modal Appendix 4, Article 1, paragraph 3-1.10 does not apply. Manufacturer-certified fusible plugs, tested and qualified under the fuse plug manufacturers' written quality control system must be used;

(2) Notwithstanding ASME Code Section XII, Modal Appendix 4, Article 1, paragraph 4-8, non-ASME marked fusible plugs are authorized;

(3) Per ASME Code Section XII, Modal Appendix 4, Article 1, paragraph 4-12(a), an inspector must perform an external and internal visual inspection in accordance with NBIC Supplement 6;

- (4) Records must be kept in accordance with the Supplement 6, as applicable; and
- (5) A ton tank that fails a prescribed test or inspection must be repaired in accordance with NBIC or removed from service.

## **PART 178—SPECIFICATIONS FOR PACKAGINGS**

- 7. The authority citation for part 178 continues to read as follows:

**Authority:** 49 U.S.C. 5101–5128, 49 CFR 1.81, 1.96 and 1.97.

- 8. Add § 178.278 to read as follows:

**§ 178.278 Alternative requirements for the design, construction, inspection and testing of portable tanks intended for the transportation of refrigerated liquefied gases.**

Notwithstanding the requirements of §§ 178.274 and 178.277 of this subpart, UN T75 cryogenic portable tanks may be designed, constructed, inspected (i.e., certified) and tested in accordance with ASME Code Section XII (IBR, see § 171.7) in conjunction with the NBIC and Supplement 6 (IBR, see § 171.7), and in accordance with the conditions and limitations of § 173.14 of part 173 of this subchapter.

- 9. Add § 178.301 to read as follows:

**§ 178.301 Alternative requirements for the design, construction, inspection and testing of cargo tank motor vehicles.**

Notwithstanding the requirements of this subpart, cargo tank motor vehicles Specification MC 331, 338, and DOT 406, 407, or 412 may be designed, constructed, inspected (i.e., certified) and tested in accordance with ASME Code Section XII (IBR, see § 171.7) in conjunction with the NBIC and Supplement 6 (IBR, see § 171.7), and in accordance with the conditions and

limitations of § 173.14 of part 173 of this subchapter.

## **PART 179—SPECIFICATIONS FOR TANK CARS**

10. The authority citation for part 179 continues to read as follows:

**Authority:** 49 U.S.C. 5101–5128, 49 CFR 1.81 and 1.97.

11. Revise § 179.302 to read as follows:

**§ 179.302 Alternative requirements for the design, construction, inspection and testing of multi-unit tank car tanks (Classes DOT-106A and 110AW).**

Notwithstanding the requirements of this subpart, Class DOT-106A and 110AW multi-unit tank car tanks may be designed, constructed, inspected (i.e., certified) and tested in accordance with ASME Code Section XII (IBR, see § 171.7) in conjunction with the NBIC and Supplement 6 (IBR, see § 171.7), and in accordance with the conditions and limitations of § 173.14 of part 173 of this subchapter.

## **PART 180—CONTINUING QUALIFICATION AND MAINTENANCE OF PACKAGINGS**

12. The authority citation for part 180 is revised to read as follows:

**Authority:** 49 U.S.C. 5101–5128, 44701; 49 CFR 1.81, 1.96 and 1.97.

13. Add § 180.402 to read as follows:

**§ 180.402 Alternative qualification and maintenance.**

Notwithstanding the applicability of § 180.401 and the requirements of § 180.413 (for ASME Code Section VIII, Division 1 cargo tanks) of this subpart for the continuing qualification and maintenance of an authorized specification cargo tank motor vehicle, and subject to

conditions and limitations set forth in § 173.14 of part 173, the NBIC (IBR, see § 171.7)—

(a) Must be used, with Supplement 6 (IBR, see § 171.7), for the continuing qualification, maintenance, or periodic testing (i.e., continued service) of cargo tanks constructed to ASME Code Section XII in accordance with § 178.301 of this subchapter; and

(b) May be used, in combination with the requirements of this part, for the continuing qualification, maintenance, or periodic testing (i.e., continued service) of cargo tank motor vehicles constructed to ASME Code Section VIII, Division 1. Specifically, DOT specification cargo tank motor vehicles constructed to ASME Section VIII, Division 1 that bear a U stamp may be inspected, repaired and tested under part 180, subpart E and the NBIC.

14. Add § 180.502 to read as follows:

**§ 180.502 Alternative qualification and maintenance.**

Notwithstanding the applicability of § 180.501 of this subpart for the qualification and maintenance of multi-unit tank car tanks, and subject to conditions and limitations set forth in § 173.14 of part 173, the NBIC and Supplement 6 (IBR, see § 171.7), must be used for the continuing qualification, maintenance, or periodic testing (i.e., continued service) of Class DOT-106A and 110AW multi-unit tank car tanks constructed to ASME Code Section XII in accordance with § 179.302 of part 179 of this subchapter.

15. Add § 180.602 as follows:

**§ 180.602 Alternative qualification and maintenance.**

Notwithstanding the applicability of § 180.601 of this subpart for the continuing qualification, maintenance or periodic testing of portable tanks, and subject to conditions and

limitations set forth in § 173.14 of part 173, the NBIC and Supplement 6 (IBR, see § 171.7) must be used for the continuing qualification, maintenance, or periodic testing (i.e., continued service) of cryogenic portable tanks constructed and qualified to ASME Code Section XII in accordance with § 178.278 of part 178 of this subchapter.

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